

CLAIMS

Amend the claims as follows.

1. (Previously Presented) A method, comprising:
scanning an image with a scanner to obtain a full color level of a color element of a pixel of the scanned image;
decreasing the full color level of the color element by reducing a number of bits of the full color level of the color element to form a reduced color level image, wherein the number of bits reduced from the full color level is dependent on an image noise associated with the scanned image, and wherein decreasing the full color level causes the image noise to be substantially removed from the scanned image;
composing a pattern comprising the number of bits reduced from the full color level of the color element, wherein the pattern has less color level of the color element than the full color level; and
restoring the full color level of the color element of the pixel by combining the reduced color level image with the pattern, wherein the full color level of the color element is restored without reintroducing the image noise into the scanned image.
2. (Previously Presented) The method of claim 1, wherein the reduced color level image and the pattern are combined using a bit-enhanced method.
3. (Previously Presented) The method of claim 1, wherein combining the reduced color level image with the pattern restores the pixel to include a same number of bits of the color element as before the full color level was decreased.
4. (Previously Presented) The method of claim 1, wherein the pattern comprises a halftone pattern.
5. (Cancelled)

6. (Previously Presented) A method, comprising:
scanning an image with a scanner to obtain a gray scale of one or more pixels of the image;
reducing the gray scale of the one or more pixels of the scanned image by reducing a number of bits of gray scale image data from each of the one or more pixels, wherein the number of bits of gray scale image data reduced from the one or more pixels is determined based, at least in part, on an image noise associated with the scanned image, and wherein reducing the gray scale causes the image noise to be substantially removed from the scanned image; and
restoring the gray scale of the one or more pixels using a halftone pattern comprising a matrix, wherein a number of rows and a number of columns of the matrix correspond to the number of bits of gray scale image data reduced from the one or more pixels, and wherein the gray scale is restored without reintroducing the image noise into the scanned image.

7. (Previously Presented) The method of claim 1, wherein the color level of the pattern depends on the number of bits reduced from the full color level.

8. (Previously Presented) A method, comprising:
scanning an image with a scanner to obtain a full image level of a color element of a pixel of the image;
reducing the full image level of the color element by decreasing a number of bits of the color element according to an image noise associated with the scanned image, wherein reducing the full image level causes the image noise to be substantially removed from the scanned image;
composing a halftone pattern comprising a reduced image level of the color element corresponding to the decreased number of bits; and
restoring the full image level of the color element of the pixel using the halftone pattern without reintroducing the image noise into the scanned image.

9. (Previously Presented) The method of claim 8, wherein the full image level of the color element in the restored image level comprises a same number of bits of the color element obtained by scanning the image.

10. (Previously Presented) The method of claim 8, wherein the halftone pattern comprises a matrix having a number of rows equal to the decreased number of bits.

11. (Previously Presented) The method of claim 10, wherein the matrix further comprises a number of columns equal to the decreased number of bits.

12. (Previously Presented) The method of claim 8, further comprising displaying the scanned image including the restored image level on a computer monitor.

13. (Previously Presented) The method of claim 8, further comprising filling out missing codes of the pixel using a bit-enhanced method.

14–17. (Cancelled)

18. (Previously Presented) An apparatus, comprising:
means for scanning an image to obtain a full image level of a color element of one or more pixels of the image; and
means for operating on the scanned image, wherein said operating comprises:
 reducing the full image level by decreasing a number of bits of the color element from the one or more pixels, wherein the number of bits corresponds approximately to an image noise associated with the scanned image, and wherein reducing the full image level causes the image noise to be substantially removed from the scanned image;
 composing a halftone pattern comprising a reduced image level of the color element, wherein the reduced image level corresponds to the decreased number of bits;
and
 recombining an image level of the one or more pixels in the image using the halftone pattern without reintroducing the image noise into the scanned image.

19. (Previously Presented) The apparatus of claim 18, wherein the color element in the recombined image level comprises a same number of bits of the color element as in the full image level.

20. (Previously Presented) The apparatus of claim 18, wherein the halftone pattern comprises a matrix having a number of rows and columns equal to the decreased number of bits.

21. (Previously Presented) The apparatus of claim 18, wherein the image level is recombined with the halftone pattern to restore the color element of the one or more pixels to the full image level.

22. (Previously Presented) The apparatus of claim 18, wherein the number of bits decreased from the full image level approximates a level of the image noise.

23. (Previously Presented) The apparatus of claim 18, wherein the reduced image level of the pattern corresponds with the number of bits reduced from the full image level.

24. (Previously Presented) The apparatus of claim 18, wherein one or more of the full image level, the reduced image level, and the image level comprise a color level.

25. (Previously Presented) The apparatus of claim 18, wherein one or more of the full image level, the reduced image level, and the image level comprise a gray level.

26. (Previously Presented) The method of claim 1, wherein the scanned image comprises three color elements, and wherein the pixel comprises at least one of the three color elements.

27. (Previously Presented) The method of claim 26, wherein the three color elements comprise a red color element, a blue color element, and a green color element.

28. (Previously Presented) The method of claim 9, wherein the full image level of the color element and the restored image level of the color element comprises a gray level.

29. (Presently Presented) The method of claim 28, wherein the full image level is reduced by decreasing a number of bits of the gray level.

30. (Previously Presented) The method of claim 8, wherein the number of bits of the color element decreased from the full image level is dependent on a level of the image noise.